

**SECTION 26 05 35**  
**SURFACE RACEWAYS**

**PART 1 GENERAL**

**1.01 The Contractor is referred to the “special notice to contractors”; special conditions, the “form of proposal”; the “form of bid bond”; “division 01 - general requirements” of the contract specifications”; the “contract drawings” and all amendments and addenda thereto; all of which govern the work of this section. these specifications complement and supplement the contract drawings. any variations, discrepancy or conflicting information found by the contractor shall be brought to the attention of nycha for resolution.**

**1.02**

**1.02 SECTION INCLUDES**

- A. Surface raceway systems.
- B. Wireways.

**1.03 RELATED REQUIREMENTS**

- A. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- B. Section 26 05 29 - Hangers and Supports for Electrical Systems.
- C. Section 26 05 34 - Conduit.
- D. Section 26 05 37 - Boxes.
- E. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
- F. Section 26 27 26 - Wiring Devices: Receptacles, smoke detectors, CO detectors.
- G. Section 27 10 05 - Structured Cabling for Voice and Data - Inside-Plant: Voice and data jacks.

**1.04 REFERENCE STANDARDS**

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- B. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2008.
- D. UL 5 - Surface Metal Raceways and Fittings; Current Edition, Including All Revisions.
- E. UL 111 - Outline of Investigation for Multioutlet Assemblies; Current Edition, Including All Revisions.
- F. UL 870 - Wireways, Auxiliary Gutters, and Associated Fittings; Current Edition, Including All Revisions.

**1.05 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  - 1. Coordinate the placement of raceways with millwork, furniture, equipment, etc. installed under other sections or by others.
  - 2. Coordinate rough-in locations of outlet boxes provided under Section 26 05 37 and conduit provided under Section 26 05 34 as required for installation of raceways provided under this section.

3. Verify minimum sizes of raceways with the actual conductors and components to be installed.
  4. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
1. Do not install raceways until final surface finishes and painting are complete.
  2. Do not begin installation of conductors and cables until installation of raceways is complete between outlet, junction and splicing points.

#### **1.06 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets including dimensions, knockout sizes and locations, materials, fabrication details, finishes, service condition requirements, and accessories.
  1. Surface Raceway Systems: Include information on fill capacities for conductors and cables.
- C. Shop Drawings:
  1. **Pre-wired Surface Raceway Systems: Provide plan and elevation views including dimensioned locations of wiring devices and circuiting arrangements.**
  2. Wireways: Provide dimensioned plan and elevation views including adjacent equipment with all required clearances indicated.
- D. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

#### **1.07 QUALITY ASSURANCE**

- A. Conform to requirements of NFPA 70.
- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

#### **1.08 DELIVERY, STORAGE, AND HANDLING**

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
- B. Maintain one copy of document on site.
- C. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with minimum three years documented experience.
- D. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and shown.

#### **1.09 DELIVERY, STORAGE, AND HANDLING**

- A. Accept Surface Raceway on site. Inspect for damage.
- B. Protect Surface Raceway from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

## **PART 2 PRODUCTS**

### **2.01 RACEWAY REQUIREMENTS**

- A. Provide all components, fittings, supports, and accessories required for a complete raceway system.
- B. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL), Intertek (ETL), or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated.
- C. Do not use raceways for applications other than as permitted by NFPA 70 and product listing

### **2.02 SURFACE RACEWAY SYSTEMS**

- A. Manufacturers:
  - 1. Hubbell Incorporated: [www.hubbell-wiring.com](http://www.hubbell-wiring.com).
  - 2. MonoSystems, Inc: [www.monosystems.com](http://www.monosystems.com).
  - 3. Wiremold, a brand of Legrand North America, Inc: [www.legrand.us](http://www.legrand.us).
- B. Surface Metal Raceways: Listed and labeled as complying with UL 5.
- C. Multioutlet Assemblies: Listed and labeled as complying with UL 111.
- D. Surface Raceway System:
  - 1. Raceway Type: Single channel, painted steel.
  - 2. Color: To be selected by Architect.
  - 3. Accessory Device Boxes: Suitable for the devices to be installed; color to match raceway.
  - 4. Integrated Device Provisions:
    - a. Receptacles:
      - 1) Comply with Section 26 27 26, except for finishes.
      - 2) Configuration: As indicated on the drawings.
      - 3) Color: Match raceway.
    - b. Communications Outlets:
      - 1) Voice and Data Jacks: As specified in Section 27 10 05.
      - 2) Configuration: As indicated on the drawings.
      - 3) Spacing: As indicated on the drawings.

### **2.03 WIREWAYS**

- A. Manufacturers:
  - 1. Cooper B-Line, a division of Cooper Industries: [www.cooperindustries.com](http://www.cooperindustries.com).
  - 2. Hoffman, a brand of Pentair Technical Products: [www.hoffmanonline.com](http://www.hoffmanonline.com).
  - 3. Schneider Electric; Square D Products: [www.schneider-electric.us](http://www.schneider-electric.us).
- B. Description: Lay-in wireways and wiring troughs with removable covers; listed and labeled as complying with UL 870.
- C. Wireway Type, Unless Otherwise Indicated:
  - 1. Indoor Clean, Dry Locations: NEMA 250, Type 1, galvanized steel with screw-cover.
- D. Finish for Painted Steel Wireways: Manufacturer's standard grey unless otherwise indicated. **In areas exposed to public, Wireways shall be painted to match wall.**
- E. Minimum Wireway Size: 4 by 4 inches unless otherwise indicated.
- F. Where wireway size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

### **2.04 SURFACE RACEWAYS**

- A. Surface Metal Raceway (SMR): Sheet metal channel with fitted cover, suitable for use as surface metal raceway. Surface metal raceway and associated fittings shall be listed.

1. Finish: Coordinate with NYCHA.
2. Fittings, Boxes, and Extension Rings: Furnish manufacturer's standard accessories.
3. Surface metal raceway and fittings shall be so designed that the sections can be electrically and mechanically coupled together, and installed without subjecting the wires to abrasion.
4. Surface metal raceway shall be of the type where the base and cap do not come apart
5. Surface metal raceway shall be WIREMOLD NO.500 or equal
6. **See section 2.02 above**

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that field measurements are as shown on the drawings.
- B. Verify that outlet boxes and conduit terminations are installed in proper locations and are properly sized in accordance with NFPA 70 to accommodate raceways.
- C. Verify that mounting surfaces are ready to receive raceways and that final surface finishes are complete, including painting.
- D. Verify that conditions are satisfactory for installation prior to starting work.

### **3.02 INSTALLATION**

- A. Prepare shop drawings showing proposed Surface Raceway routing, size and wiring for approval by NYCHA. Shop drawing shall show equipment served and circuiting.
- B. Installation shall comply with New York City Electrical Code and NEC. The most stringent shall apply.
- C. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.
- D. Furnish and install all SMR, fittings, boxes and other component parts of the SMR systems indicated on the Drawings, or required for the completion and proper operation of the systems specified or indicated on the Drawings.
- E. Where the Contractor selects and installs an item of equipment which are required either additional SMR, boxes, fittings, etc., or a modification of the SMR system indicated on the Drawings, such additional SMR, boxes, fittings, etc., shall be furnished and installed and such modifications shall be performed by the Contractor as a part of this Contract and without additional cost to NYCHA.
- F. The Contractor shall coordinate the work with that of the other tradesman so that the completed installation, particularly partitions and walls, will present a finished appearance. There shall be no structural malformation caused by improper installation of electrical equipment and no observable spaces between electrical equipment and the structure. Deficiencies shall be corrected at no additional cost to NYCHA.
- G. Where neither Drawings nor the Specifications indicate a size, SMR shall be not less than 3/4 inch
- H. Install products in accordance with manufacturer's instructions.
- I. Install raceways in a neat and workmanlike manner in accordance with NECA 1.
- J. Install raceways plumb and level.
- K. Arrange wireways and associated raceway connections to comply with NFPA 70, including but not limited to requirements for deflected conductors and wireways used as pullboxes. Increase size of wireway where necessary.
- L. Secure and support raceways in accordance with Section 26 05 29 at intervals complying with NFPA 70 and manufacturer's requirements.

- M. Use suitable insulating bushings and inserts at connections to outlets and corner fittings.
- N. Wireway Supports: Provide steel channel as specified in Section 26 05 29.
- O. Close ends of wireway and unused Surface Raceway openings.
- P. Provide grounding and bonding in accordance with Section 26 05 26.
- Q. Identify raceways in accordance with Section 26 05 53.

**3.03 FIELD QUALITY CONTROL**

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Inspect raceways for damage and defects.
- C. Surface Raceway Systems with Integrated Devices: Test each wiring device to verify operation and proper polarity.
- D. **Upon NYCHA's requested, installed conductors shall be Megger tested for continuity. All damaged conductors shall be replaced at no additional expense to NYCHA.**
- E. Correct wiring deficiencies and replace damaged or defective raceways.

**3.04 CLEANING**

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

**3.05 PROTECTION**

- A. Protect installed raceways from subsequent construction operations.

**3.06 RECORDS**

- A. Prepare As-built drawings showing actual Surface Raceway routing, size, wiring, equipment served, circuits and all other information necessary for maintenance and repairs.

**END OF SECTION**